

WHAT IS CLAIMED IS:

- 1 1. A preceding-vehicle following control system for a
2 host vehicle, comprising:
 - 3 a controller arranged,
 - 4 to obtain road width indicative information of a
5 road traveled by the host vehicle, and
 - 6 to execute a following control for following a
7 preceding vehicle ahead of the host vehicle according
8 to the road width indicative information.
- 1 2. The preceding-vehicle following control system as
2 claimed in claim 1, wherein the controller is further
3 arranged to vary a control gain employed for obtaining a
4 target vehicle speed according to the road width indicative
5 information in the execution of the following control.
- 1 3. The preceding-vehicle following control system as
2 claimed in claim 2, wherein the controller is further
3 arranged to vary the control gain so that a change of the
4 target vehicle speed decreases as a road width obtained
5 from the road width indicative information increases.
- 1 4. The preceding-vehicle following control system as
2 claimed in claim 2, wherein the controller is further
3 arranged to set the control gain on the basis of a natural
4 frequency of a transfer characteristic in a control system
5 of the following control, and to decrease the natural
6 frequency as the road width increases.
- 1 5. The preceding-vehicle following control system as
2 claimed in claim 2, wherein the controller is further
3 arranged to set the control gain on the basis of a damping

4 coefficient of a transfer characteristic in a control
5 system of the following control, and to increase the
6 damping coefficient as the road width increases.

1 6. The preceding-vehicle following control system as
2 claimed in claim 2, wherein the controller is further
3 arranged to set the control gain on the basis of a natural
4 frequency of a transfer characteristic in a control system
5 of the following control, and to decrease the natural
6 frequency as the road width increases.

1 7. The preceding-vehicle following control system as
2 claimed in claim 2, wherein the control gain includes first
3 and second control gains, and a target vehicle speed is
4 determined from the sum of a first product and a second
5 product where the first product is obtained by multiplying
6 a difference between an inter-vehicle distance and a target
7 inter-vehicle distance and a first gain, and the second
8 product is obtained by multiplying a relative speed between
9 the host vehicle and a preceding vehicle and a second gain

1 8. The preceding-vehicle following control system as
2 claimed in claim 1, wherein the controller is further
3 arranged to set a target inter-vehicle distance according
4 to the road width indicative information in the execution
5 of the following control.

1 9. The preceding-vehicle following control system as
2 claimed in claim 8, wherein the controller is further
3 arranged to correct the target inter-vehicle distance on
4 the basis of the road width.

1 10. The preceding-vehicle following control system as
2 claimed in claim 9, wherein the controller is further
3 arranged to vary a correction quantity of the target
4 inter-vehicle distance on the basis of the host-vehicle
5 speed.

1 11. The preceding-vehicle following control system as
2 claimed in claim 8, wherein the controller is further
3 arranged to increase the target inter-vehicle distance as
4 the host-vehicle speed increases.

1 12. The preceding-vehicle following control system as
2 claimed in claim 8, wherein the controller is further
3 arranged to increase the target inter-vehicle distance as
4 the road width is decreased.

1 13. The preceding-vehicle following control system as
2 claimed in claim 8, wherein the controller is further
3 arranged to calculate a target vehicle speed based on the
4 target inter-vehicle distance and to execute the following
5 control using the target vehicle speed.

1 14. The preceding-vehicle following control system as
2 claimed in claim 1, wherein the road width indicative
3 information includes at least one of the number of lanes
4 and a lane width of the traveling road.

1 15. The preceding-vehicle following control system as
2 claimed in claim 1, further comprising a car navigation
3 system connected to the controller, the car navigation
4 system has stored the road width indicative information
5 wherein.

1 16. The preceding-vehicle following control system as
2 claimed in claim 1, further comprising a CCD camera which
3 takes an image picture of a road ahead of the host vehicle,
4 the controller obtaining a lane width of the road based on
5 the image picture.

1 17. A preceding-vehicle following control system for a
2 host vehicle, comprising:

3 a road information device obtaining road information
4 as to a road traveled by the host vehicle;

5 a preceding-vehicle recognizing device obtaining
6 preceding-vehicle information of a preceding vehicle ahead
7 of the host vehicle; and

8 a controller connected to the road information device
9 and the preceding vehicle recognizing device, the
10 controller being arranged,

11 to determine a road width of the road from the
12 road information,

13 to vary a condition for determining a control
14 characteristic of a control system of a following
15 control for following the preceding vehicle, and

16 to execute the following control on the basis of
17 the condition for determining the control
18 characteristic and the preceding-vehicle information.

1 18. A method of controlling a host vehicle, comprising:

2 obtaining road width indicative information of a road
3 traveled by the host vehicle; and

4 executing a following control for following a preceding
5 vehicle ahead of the host vehicle according to the road
6 with indicative information.

1 19. A preceding-vehicle following control system for a
2 host vehicle, comprising:

3 road width obtaining means for obtaining road width
4 indicative information of a road traveled by the host
5 vehicle; and

6 following control means for following a preceding
7 vehicle ahead of the host vehicle upon taking account of
8 the road width indicative information.